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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,968	04/11/2005	Gunther Hrabý	S4-02P16362	3180
24131 7590 04/07/2008 LERNER GREENBERG STEMER LLP P O BOX 2480 HOLLYWOOD, FL 33022-2480				
EXAMINER				
GUZMAN, APRIL S				
ART UNIT		PAPER NUMBER		
2618				
MAIL DATE		DELIVERY MODE		
04/07/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/530,968

**Applicant(s)**

HRABY ET AL.

**Examiner**

APRIL S. GUZMAN

**Art Unit**

2618

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 04/11/05, 06/04/07.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The Examiner acknowledges the receipt of the Applicant's amendment filed on 01/10/2008. Claim 11 has been amended. Claims 1-10 and 19-21 are canceled. **Claims 11-18** are therefore currently pending in the present application.

### ***Response to Arguments***

Applicant's arguments filed 01/10/2008 have been fully considered but they are not persuasive.

Applicant argues that the Examiner has equated the wheel rims, wheel axle, and the body of the vehicle with the electrically conducting conductor element defined in claim 11; however, Bankart et al. specifically teach that these components are connected to ground. The infrastructure body defined in claim 11 is read as the body of the vehicle which is of metal and is electrically conducting. Applicant also argues that Bankart et al. teach the electric field is directly coupled between the wheel antenna 2 and the fixed antenna 3. However, Bankart et al. teach the use of conducting plate antennae separated by an air gap. The electrical potential on one plate produces a localized electric field that induces a potential on the other (column 7 lines 30-46). The plates themselves can be protected by being covered by an insulating material, read as the body of the vehicle, which is of metal and is electrically conducting.

The Examiner relies on the secondary reference, Brown, that specifically teaches a system for monitoring pneumatic tire conditions for one or more tire/wheel assemblies mounted on a vehicle. A wheel or wheel carrier transponder with antenna mounted on the wheel of the one or more tire/wheel assemblies for transmitting a signal indicating the information of the

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wheel and one or more receivers each having one or more receiving antennas fixedly mounted on the vehicle and circuitry for processing the signals received by one or more receiving antennas to determine information of the wheel of the one or more tire/wheel assemblies (column 8 lines 18-35, column 26 lines 52-67, and column 27 lines 1-41).

Consequently, in view of the above teachings of Bankart et al. in view of Brown, the previous rejection of claim 11 is maintained and made Final by the Examiner.

As claims 12-18 depend on claim 11, the Applicant's arguments are not persuasive in view of the sustained rejection of claim 11 explained above in view of Bankart et al. in view of Brown. The previous rejection of claims 12-18 are also maintained and made Final by the Examiner.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 11-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bankart et al. (U.S. Patent # 6,609,419)** in view of **Brown (U.S. Patent # 6,591,671)**.

Consider **claim 11**, Bankart et al. teach an information transmission system for a tire pressure measuring system of a motor vehicle having a vehicle body and tires, the information transmission system (Abstract, Figure 1, column 3 lines 24-37, and column 3 lines 44-65) comprising:

an infrastructure body (body of vehicle are of metal and are electrically conducting) (Abstract, Figure 6, column 3 lines 57-65, column 5 lines 3-31) having an electrically conducting conductor element electrically insulated from ground, wherein the electric field is coupled into said conductor element (Substantially all external surfaces of the pressure sensor are made of conductive material. Non-contact coupling method or capacitive coupling can be used to transmit power in one direction and receive a signal in the other direction. Conducting plate antennae separated by an air gap is used. The electric potential on one plate produces a localized electric field that induces a potential on the other. The plates themselves can be protected by

being covered by an insulating material.) (Figure 6, column 7 lines 30-45, column 12 lines 34-39, and column 35 lines 25-26); and

said conductor element being a part of the vehicle body of the motor vehicle (Figure 6, column 7 lines 30-45, column 12 lines 34-39, and column 35 lines 25-26).

However, Bankart et al. fail to teach a plurality of transmitters each having at least one transmitter coupling element for emitting primarily an electric near field; a central receiver having a receiver coupling element for coupling out the electric field transmitted in said conductor element; and each tire of the motor vehicle has one of said transmitters disposed therein, and said central receiver disposed on the vehicle in a vicinity of said conductor element.

In the related art, Brown teaches a plurality of transmitters (read as transponders ("TAG") 806a-806d) each having at least one transmitter coupling element for emitting primarily an electric near field; a central receiver (read as RF receiver 814) having a receiver coupling element for coupling out the electric field transmitted in said conductor element; and each tire of the motor vehicle has one of said transmitters disposed therein, and said central receiver disposed on the vehicle in a vicinity of said conductor element (Figure 8, Figure 15, column 22 lines 13-37, column 26 lines 52-67, and column 27 lines 1-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Brown into the teachings of Bankart et al. for the purpose of measuring a dynamic condition of a pneumatic tire further determining pneumatic tire conditions by monitoring one or more of a tire pressure, tire temperature, and a count of tire revolutions using a system for monitoring pneumatic tire conditions for one or more tire/wheel assemblies mounted on a vehicle.

Consider **claim 12, as applied to claim 11 above**, Bankart et al. as modified by Brown further teach wherein said conductor element is connected for directly coupling the electric field into said conductor element (Non-contact coupling method, capacitive coupling, can be used to transmit power in one direction and receive a signal in the other direction. Conducting plate antennae separated by an air gap is used. The electric potential on one plate produces a localized electric field that induces a potential on the other.) (Bankart et al. - column 7 lines 30-46).

Consider **claim 13, as applied to claim 11 above**, Bankart et al. as modified by Brown further teach wherein said conductor element is disposed for coupling the electric field into said conductor element by capacitive coupling (Bankart et al. - column 7 lines 30-46).

Consider **claim 14, as applied to claim 11 above**, Bankart et al. as modified by Brown further teach wherein said conductor element is made of a substantially homogenous material (Substantially all external surfaces of the pressure sensor are made of metal or conductive material.) (Bankart et al. - Figure 9, column 17 lines 31-49, and column 35 lines 25-26), and an electrical conductivity of said conductor element is time-invariant (The sensor module has only one item of data to transmit to the relay module. If transmission of more than one item of data is required, time-division-multiplexing can be used.) (Bankart et al. - Figure 7, column 6 lines 15-27, column 6 lines 56-60, and column 25 lines 35-39).

Consider **claim 15, as applied to claim 11 above**, Bankart et al. as modified by Brown further teach wherein said conductor element has an electrical impedance with respect to ground potential (The fixed antenna 3 and relay module 4 are carried by the body of the vehicle. The relay module 4 contains driver circuitry to provide a high-frequency voltage and current to fixed antenna 3 via a source impedance. As seen in Figure 10, which shows a block circuit diagram of

the relay module 4, the source impedance is connected to ground.) (Bankart et al. - Figure 10, column 5 lines 3-13, column 5 lines 25-37, and column 8 lines 22-36).

Consider **claim 16, as applied to claim 11 above**, Bankart et al. as modified by Brown further teach wherein said conductor element is an unbalanced conductor element configured to utilize ground potential as a return line for transmission of information (Capacitive coupling is the preferred coupling method which is achieved by the use of conducting plate antennae separated by an air gap. The electric potential on one plate produces a localized electric field that induces a potential on the other. Figure 5 is a representation of the coupling between the relay module and the sensor module. The earth connection for the sensor module 1 (return path) is implemented through the wheel bearing.) (Bankart et al. - Figure 5, Figure 6, column 7 lines 30-46, column 11 lines 11-29, and column 12 lines 37-39).

Consider **claim 17, as applied to claim 11 above**, Bankart et al. as modified by Brown further teach wherein the electric field is modulated with information to be transmitted (The modulator 182 includes an analog multiplier which modulates the amplitude of the excitation signal produced by the excitation oscillator in accordance with a signal DATA IN which is desired to transmit to the load.) (Bankart et al. - Figure 18, and column 27 lines 50-61).

Consider **claim 18, as applied to claim 17 above**, Bankart et al. as modified by Brown further teach wherein a carrier frequency lies approximately between 5 MHz and 50 MHz (The sensor module specification requires less than 100  $\mu$ W at 2.5 volts. If this power is provided an excitation voltage of 1.75 V and a resonator frequency of 11 MHz, giving an excitation frequency of approximately 10 MHz, a minimum coupling capacitance of 4 pF is required.) (Bankart et al. - column 10 lines 54-59).



***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building

401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lana Le can be reached on 571-272-7891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April S. Guzman  
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Examiner, Art Unit 2618

/Lana N. Le/  
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